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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/511,715

03/25/2005

Hideo Hosono

042834

6338

38834

7590

04/24/2009

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EXAMINER

VADEN, KENNETH I

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

04/24/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,715	Applicant(s) HOSONO ET AL.	
	Examiner KENNETH VADEN	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 and 3 is/are allowed.
- 6) ☒ Claim(s) 1 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 8-10 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/31/2009 has been entered.

Election/Restrictions

Applicant remarks that the claims satisfy the combination of categories provided under 37 CFR 1.475(b)(3) and satisfy unity of invention.

This is not found persuasive because in unity of invention practice, restriction is proper in a US national stage of a PCT application where the special specification technical feature does not make a contribution over the prior art. In this application, the compound of claim 1, which is the special specification technical feature, is taught by the prior art and therefor does not make a contribution over the prior art. Therefore restriction is proper.

The requirement is still deemed proper.

Claim Objections

Claim 7 is objected to because of the following informalities: “either one” should read “any one” since it refers to “claims 1 to 3.” (Note that Claims 8-10 also read “either one.”). Appropriate correction is required.

Response to Arguments

The rejection of Claim 1 and Claim 7 under 35 U.S.C. paragraph 102 (a) incorporates the reference of Hayashi, et al. in the issue of Nature. This reference meets the components of the claims with the addition of “at room temperature” for claim 1 and with the requirement of irradiating the compound with ultraviolet light for claim 7.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

4. Claims 1 and 7 rejected under 35 U.S.C. 102(a) as being unpatentable by Hayashi, et al., Nature, Vol. 419, No. 6906, pp. 462-465, October 2002.

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5. Regarding claim 1, Hayashi teaches a $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compound, which incorporates a negative ion H^- , H_2^- at a concentration of $1 \times 10^{18} \text{ cm}^{-3}$ or more, which has an electronic conductance equivalent of 10^{-5} Scm^{-1} or more at room temperature as a result of irradiating with ultraviolet light (Abstract, page 464 lines 14-22 and Fig 3.)

6. Regarding claim 7, Hayashi teaches a method of producing the compound by subjecting to a heat treatment at a temperature of 1300 degrees C (more than 800 degree C) in an atmosphere containing 20% hydrogen (more than 1000 ppm), to clathrate a negative hydrogen ion (H^- , H_2^-) into said selected compound at a concentration of $1 \times 10^{18} \text{ cm}^{-3}$ or more, and further irradiate selected compound with ultraviolet light (page 264, lines 14-22 and page 465, lines 5-6).

Allowable Subject Matter

1. Claim 2 is allowed. There is no prior art which teaches the compound $12\text{SrO} \cdot 7\text{Al}_2\text{O}_3$ which incorporates a negative hydrogen ion concentration of 1×10^{18} or more in the compound and electrical conductivity of 10^{-5} Scm^{-1} or more at room temperature.

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Claim 3 is allowed. There is no prior art that teaches the mixed compound $12 \text{ CaO} \cdot \text{Al}_2\text{O}_3$ and $12 \text{ SrO} \cdot 7\text{Al}_2\text{O}_3$ which incorporates a negative hydrogen ion concentration at a concentration of $1 \times 10^{18} \text{ cm}^{-3}$ or more and electrical conductivity of 10^{-5} Scm^{-1} or more at room temperature.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH VADEN whose telephone number is (571)270-5824. The examiner can normally be reached on M-Th 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on (571)272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kenneth Vaden

4/23/2009

/Melvin Curtis Mayes/

Supervisory Patent Examiner, Art Unit 1793